

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
7 June 2001 (07.06.2001)

PCT

(10) International Publication Number  
**WO 01/41096 A1**

(51) International Patent Classification?: G07F 19/00, G06F 17/60

(21) International Application Number: PCT/CA00/01357

(22) International Filing Date:  
15 November 2000 (15.11.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2,289,955 16 November 1999 (16.11.1999) CA

(71) Applicants and

(72) Inventors: KATSMAN, Jacob [CA/CA]; 11 Townsgate Drive, Suite 913, Thornhill, Ontario L4J 8G4 (CA). PACHNEV, Nikolai [RU/CA]; 7825 Bayview Avenue, Suite 817, Thornhill, Ontario L3T 7N2 (CA).

(74) Agents: LUE, Henry et al.; Dimock Stratton Clarizio LLP, 20 Queen St. W., Suite 3202, Box 102, Toronto, Ontario M5H 3R3 (CA).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

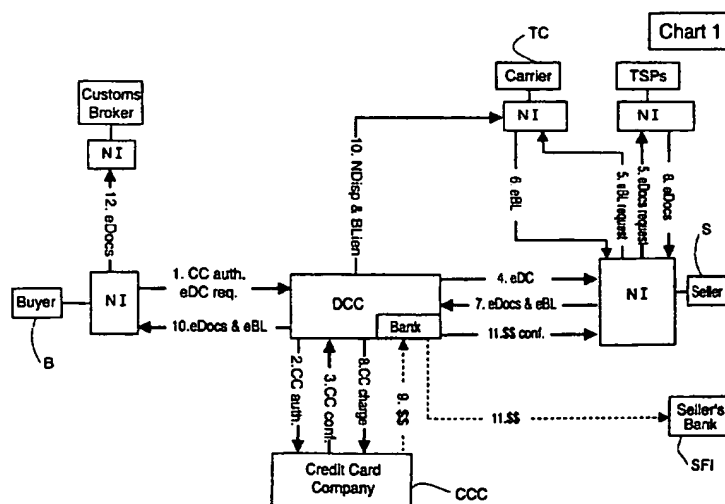
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SECURE PAYMENT AND TRADE MANAGEMENT SYSTEM



(57) Abstract: A secure payment and trade management system comprises a Documentary Clearance Centre which recognizes and reserves funds against a credit account established by a buyer with a financial institution in the form of a credit card or bank line of credit used to issue an electronic documentary credit. The Documentary Clearance Centre provides an application for and authorization of the transaction, and verifies compliance documents collected from the seller and its suppliers. Once compliance of the documents with the terms of the electronic documentary credit is verified, the Documentary Clearance Centre charges the buyer's credit account for the seller's payment, transaction fees and assignment of proceeds, if any. The payment is transferred from the buyer's financial institution to the Documentary Clearance Centre, and the seller's funds are transferred by the Documentary Clearance Centre to the seller's bank as specified in the electronic documentary credit.



WO 01/41096 A1

## SECURE PAYMENT AND TRADE MANAGEMENT SYSTEM

### Field of the Invention

This invention relates to a method of securing payment and managing trade transactions between buyers and sellers. In particular, this invention relates to a  
5 method of using a secure communications network to ensure payment to the seller and delivery of goods to the buyer, and to software for implementing the method.

### Background of the Invention

In the past, buyers and sellers generally found each other through various trade directories, agents, and brokers. A buyer would ask a seller to send information about  
10 the goods, services and/or other performances by mail or by facsimile transmission, with a price list and terms of sale. The seller and buyer largely communicated by facsimile or by telex.

Today, with the advent of the Internet, international trade is changing. Buyers are able to find sellers of goods, services and/or other performances merely by  
15 browsing through the Internet or using an Internet search engine. Electronic marketplaces are being established that make it easier for sellers to find buyers, and vice versa.

Once a buyer and a seller have found each other, they negotiate and agree upon the terms and conditions of a commercial contract. Amongst other things, the  
20 commercial contract may call for the delivery of goods to the buyer by a certain date in return for a payment of a specified amount to the seller. However, this is an executory contract which is to be performed sometime in the future. The buyer is typically reluctant to pay money to the seller until the goods are actually received and can be verified by the buyer as conforming to the contractual provisions. Likewise, a  
25 seller is reluctant to ship goods to the buyer without a solid guarantee of payment for goods sold.

The development of documentary credit in the 19th century provided a mechanism for satisfying these concerns. Documentary credit first appeared as a vehicle for effecting payments on foreign trade transactions among banks in London, England around the 1840's.

5            Documentary credit refers to an engagement by a bank (referred to as the "issuing bank") made at the request of a customer a buyer ("applicant") whereby the issuing bank makes a commitment to honour a demand for payment to a seller ("beneficiary") based upon the documentary credit, usually called a "documentary letter of credit" or simply a "letter of credit", subject to compliance with certain  
10 specified conditions. "Standby letters of credit", "guarantees" and "documentary collections" have also been used in the past to help facilitate trade transactions.

Conventionally, the issuing bank issues a documentary credit based on the instructions from the buyer, and the documentary credit constitutes an irrevocable undertaking from the bank to pay funds once the specified terms and conditions of the  
15 documentary credit have been met. The bank essentially substitutes its creditworthiness and reputation for that of the buyer.

The terms and conditions of payment under documentary credit typically include verification of delivery of the contracted goods or services, which is effected by the presentation of certain documents, which may include a commercial invoice, a  
20 packing list, a certificate of origin, certification of notice of readiness, certificate of insurance, shipping documentation and a surveyor's quality or quantity certificate. In some situations, for example in the case of food products or medicines, additional certifications from health authorities may be required. The verification of documentation required in each case is specific to the goods shipped and the  
25 contractual provisions negotiated between the buyer and the seller. Upon presentation of complete and compliant documentation to the issuing bank, the issuing bank will honour its undertaking and make payment under the documentary credit.

As set out in the Guide to Documentary Credits, The Chartered Institute of Bankers 1998, which is incorporated herein by reference, the present day documentary

credit operation, which covers the movement of goods, services and/or other performances, comprises the following parties and steps:

The Buyer – The buyer (sometimes referred to as the “Applicant”) completes a standard bank application form requesting a bank (the “issuing bank”), usually a bank  
5 granting credit to the buyer, to issue an irrevocable credit in favour of the seller. The application form specifies the documents that must be presented and the terms and conditions that must be complied with before payment will be made.

The Issuing Bank – The issuing bank issues its irrevocable credit in favour of the seller, incorporating the bank’s irrevocable and independent undertaking to pay the  
10 seller provided that all documents as stipulated in the documentary credit have been presented and all terms and conditions of the documentary credit as evidenced by the documents have been met. A documentary credit is thus an irrevocable undertaking from a bank, independent of goods, services and/or other performances and any other consideration outside the actual credit as issued, which is enforceable against the  
15 issuing bank even if the buyer is unable or unwilling to pay the issuing bank.

The Advising Bank – In the case of an international transaction, the issuing bank usually makes a request to a bank in the seller’s country with which it has a correspondent banking relationship (the “advising bank”) to advise the credit, i.e. advise the seller of the terms and conditions of the credit and processing the  
20 transaction. Under the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce Publication No. 500 (UCP500), which is incorporated herein by reference, branches of the same bank in different countries are considered to be different banks. Therefore, a branch of a bank in one country could request one of its branches in a different country to advise a credit. The advising bank  
25 may accept or refuse the request. If the advising bank accepts the request and agrees to advise the credit, the advising bank must take reasonable care to check the apparent authenticity of that credit. If the advising bank refuses to advise the credit, it must inform the issuing bank without delay. If the advising bank is not able to establish the apparent authenticity of the credit it must inform the bank from which the instructions  
30 appear to have been received, without delay. In addition the advising bank may, if it

wishes, advise the unauthenticated credit, but at the same time must inform the seller that it has not been able to establish the authenticity of that credit. The advising bank's obligations are outlined in Article 7 of the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce Publication No. 500  
5 (UCP500), which is incorporated herein by reference.

The Nominated Bank – The credit may be payable at the counters of the issuing bank, or may be payable at the counters of a specified “nominated bank” in the seller's country, or at the counters of any bank in the case of a freely negotiable credit. The nominated bank is often, but is not necessarily, the advising bank.

10 The Confirming Bank – The confirming bank is a bank which, at the request of, or with the permission of, the issuing bank, adds its own irrevocable undertaking to honor the credit if the issuing bank should default. Where the credit is confirmed by a confirming bank in the seller's country, the credit may be payable at the counters of the confirming bank. There is no liability on the part of the confirming bank if the  
15 seller fails to comply with the terms of the credit. The undertaking by the confirming bank is in addition to, and not in substitution for, the undertaking given by the issuing bank. In effect, the seller has the benefit of two bank guarantors. The seller's first recourse is to the issuing bank, and then to the confirming bank in the event of default by the issuing bank. If specified in the documentary credit, the confirming bank may  
20 add its commitment to that of the issuing bank to pay the seller if the documents presented under the credit are in order. The confirming bank then assumes the risk of the issuing bank, including the political, social and economic risk associated with the country of the issuing bank. A confirmed documentary credit is often required by sellers who do not wish to rely solely on a foreign issuing bank and who feel more  
25 comfortable having the commitment of a domestic bank in addition to the commitment of the foreign issuing bank. Simply put, the seller knows that once its own confirming bank finds that the documents presented under the documentary credit are in compliance with the specified terms and conditions, he will get paid without recourse. A confirmed irrevocable documentary credit is therefore the safest  
30 form of credit from the seller's perspective, but is more costly than an unconfirmed credit. As noted above, branches of the same bank in different countries are

considered to be different banks; therefore an overseas branch of one bank could also be asked to confirm a credit issued by one of the bank's own branches in a different country.

Other Banks – There are often other banks involved in the credit transaction. These  
5 may include an “accepting bank”, which is a bank named in the credit upon which term drafts are drawn and which indicates acceptance of the draft by dating and signing across its face, thereby incurring a legal obligation to pay the amount of the draft at maturity. A “discounting bank”, which discounts a draft for the seller after it has been accepted by an accepting bank, may be involved. The transaction may  
10 include a “reimbursing bank” which is the bank that, at the request of the issuing bank, is authorized to pay or accept and pay time drafts under the credit in accordance with Article 19 of UCP 500 and, if incorporated, the ICC Uniform Rules for Bank-to-Bank Reimbursements Under Documentary Credits (URR 525).

The seller dispatches the goods as required by the agreement and presents the  
15 stipulated documents to the nominated bank, whether it be the issuing bank, a specific nominated bank (or any bank if the credit is freely negotiable) or a confirming bank. The stipulated documents may include a bill of exchange to be drawn on a bank as indicated in the credit.

The nominated bank could pay the seller provided that the stipulated  
20 documents have been presented and the seller can show compliance with the terms and conditions of the credit. The nominated bank also dispatches documents to the issuing bank, to obtain reimbursement from the issuing bank (or from a third party bank, if stipulated in the terms of the credit).

The buyer obtains the stipulated documents from the issuing bank upon  
25 making payment to the issuing bank, and usually with these documents obtains delivery of the goods, services and/or other performances.

Thus, under the conventional credit system payment is exchanged for documents generated in the documentary credit cycle, provided the stipulated documents are presented in order and the terms and conditions of the credit are

complied with. There are many different documents involved, depending on the nature of the goods, services and/or other performances. Each document gives rise to an opportunity for errors and discrepancies to arise, through human error including transposition errors from one document to another.

5           Moreover, as can be seen from the above description, in a conventional credit transaction many different banks may be involved. Each bank typically charges a transactional fee associated with its involvement, which must be paid by either the buyer or seller, and thus the cost of the credit can be substantial. Each bank that is involved in the documentary credit process also generates its own documents, and  
10 with the number of different banks involved this substantially increases opportunities for inconsistencies and errors. These errors may have to be corrected at a later time, and may cause further delays in the completion of the commercial transaction. Also, each bank may conduct its own review of verification documentation according to its own standards and procedures, with the result that an approval by one bank in the  
15 credit chain does not necessarily result in the approval by other banks in the credit chain. Thus, at best the conventional documentary credit process is cumbersome, slow and expensive.

Standby letters of credit and guarantees are also used to facilitate trade. A standby letter of credit is again a guarantee from the buyer's bank to pay the seller  
20 once the seller has met all of the terms and conditions of the standby letter of credit. Unlike a documentary credit that is paid against when the seller presents documents that the seller has complied with delivery terms, in a standby letter of credit, the issuing bank only pays when the seller presents documents certifying that the buyer did not pay (did not comply) with the payment terms. Upon the non-performance by  
25 the buyer the seller presents to a financial institution a draft and a written statement certifying that the buyer has failed to make payment on the shipment secured by the standby letter of credit which makes the seller entitled to collect payment from the buyer's bank. Standby letters of credit are generally subject to UCP 500 or ISP 98. Guarantees are usually subject to URDG 458 or local law.

Documentary collections have also been used to reduce the risk of the transactions. With documentary collections, the seller initiates the transaction by sending goods and presenting the seller's bank with a set of documents which are transferred to the buyer's bank. The documents are usually released by the buyer's bank only upon receipt of payment or an acceptance to pay at a later date by the buyer. If the buyer fails to pay and take possession of the documents the seller has the burden of locating a new buyer or having the goods returned. Documentary collections in most cases are subject to URC 522.

However, in addition to the problems associated with the documentary credit process even when the terms of credit are defined to the satisfaction of buyer and seller, in some cases a seller may want to change the terms of the credit. The seller would contact the buyer and request specific amendments to the documentary credit. The buyer would have to contact the issuing bank and request an amendment to the documentary credit. The issuing bank would have to contact the advising bank restating the instructions of the buyer. The advising bank would have to contact the seller advising that the documentary credit was amended. The conventional amendment procedure could take from two days to two weeks, with the risk of mail delay, bank working hours (which is subject to different time zones) and dependency on paper instruction and their execution reduced the efficiency of the trade transaction. Furthermore, each communication step in this process increases the opportunities for error and discrepancies between what the buyer requested and what amendment ends up being made and communicated to the seller.

Systems to facilitate trade in goods and services have been proposed, and an example can be found in United States Patent Number 5,717,989 to Tozzoli et al., which is incorporated herein by reference. The system described in Tozzoli et al is a closed system whereby buyers and sellers are filtered or screened in order to determine whether they meet certain profiles of "acceptable characteristics". These characteristics are generally financial in nature and may include details concerning minimal annual revenue and years in business for a buyer. In essence, the buyers are put through a credit approval application process and, if approved, are granted a credit limit to trade and make purchases on this system. This system is essentially a closed



system in that it is restricted to certain buyers and sellers who have been given credit approval. By requiring buyers to go through this credit application process, the system is similar to the credit application system of a bank or other financial institution. In this manner, the system guarantees payment to sellers.

5           In the system described in Tozzoli et al., buyers may offer to purchase goods or sellers may advertise goods or services on an electronic bulletin board. The buyers place orders to purchase goods or services with certain purchase terms. The sellers offer to sell goods or services with certain sale terms. The system compares the buyers' terms and the sellers' terms to match the parties. For example, a seller may  
10       specify that the system should sell to the first buyer who meets the seller's terms or should sell to the best price buyer offer received within a predetermined time frame. Once a buyer and seller are matched, the system then converts the proposed purchase order into an actual or original purchase order. The terms of the contract are entered into a data processing system. The system thereafter deals with third parties such as  
15       the freight forwarder or the carrier. This third party data is also inputted into the data processing system which then determines whether selected terms of the contract have been fulfilled. Once all of the appropriate conditions are met, payment is then made.

          Under the conventional documentary credit process, the carrier of the goods prepares an original shipping document, which is usually presented as one of the  
20       compliance documents. This shipping document is known as a "bill of lading". A bill of lading serves three functions: a contract of carriage, a receipt for the goods, and a document of title to the goods. In the conventional documentary credit process, the seller presents the bill of lading as a term of the documentary credit. In presenting a blank endorsed bill of lading, the seller surrenders document title to the goods and  
25       loses control of the goods. The bill of lading is forwarded through the documentary credit chain and ultimately forwarded to the buyer. The possessor of the bill of lading at any particular point may be considered to have possession of the title documents to the goods. Once the buyer receives possession of the bill of lading, the buyer can then present this document to the carrier and receive the goods.

In a system known as the Bolero Title Registry system, electronic bills of lading are created and serve the function of conventional bills of lading. In this system, however, a complicated set of rules known as the Bolero Rulebook must be referenced in order to determine how transactional changes of the bill of lading affect the rights of Bolero Users. These rules must be adhered to by the users of the Bolero System. The Bolero system is a closed system restricted to member companies working through a dedicated network. In addition, the Bolero system creates a new legal infrastructure found in the Bolero Rulebook. This system is expensive for users as the system and the title registry must be maintained. This system further relates only to the transport step of the credit process, which is but one of many steps in the overall process.

It would accordingly be advantageous to provide a method of securing payment and managing trade transactions between buyers and sellers that utilizes existing rules of international commerce, which is not a closed (member only) system but rather is open to all buyers and sellers, which eliminates many of the banks involved in a guarantee of payment under the conventional documentary credit process, which is cost-effective, and which provides a credible guarantee to a seller that it will receive payment for the goods shipped or services provided.

#### Summary of the Invention

The present invention accomplishes this by providing a Documentary Clearance Centre which recognizes and reserves funds against a credit facility, established by a buyer with a financial institution such as a bank, preferably in the form of a credit card, line of credit or a revolving credit line account which is not transaction specific and is replenishable by the buyer. The Documentary Clearance Centre provides templates for application for and verification of the transaction, and verifies documents collected from the seller and its suppliers, all referenced to a transaction-specific identifier. The Documentary Clearance Centre controls the funds pending verification of compliance with the terms of the application by the buyer to the Documentary Clearance Centre. Once compliance with the terms of the electronic documentary credit is verified, the Documentary Clearance Centre charges the buyer's

credit account for the seller's payment, transaction fees and assignment of proceeds, if any. The payment is transferred from the buyer's financial institution to the Documentary Clearance Centre, and the seller's funds are transferred by the Documentary Clearance Centre to the seller's bank as specified in the electronic  
5 documentary credit.

The present invention provides an Internet-based secure payment and trade management system connecting buyers, sellers, financial institutions, and trade service providers together. The system can be accessed via an electronic trading hub and augments Internet and Intranet technology to provide the ability to expedite reliable  
10 and secure document transmission, maximize credit availability, and communicate with all trade participants while reducing transaction costs.

The invention provides a novel use for credit cards in the purchase of goods or services, where compliance with terms of sale is a condition precedent to release of funds to the seller.

15 In an alternative embodiment the request to reserve funds is made directly to a financial institution such as the buyer's bank. Upon verification of compliance as determined by the Documentary Clearance Center with the electronic documentary credit, the reserved funds are transferred from the buyer's bank to the Documentary Clearance Centre and payment is made to the seller.

20 Thus, a credit account is obtained which provides a specified amount of credit to enter into trade transactions. This credit account is not transaction specific and can be utilized for any of a number of trade transactions. Once some or all of the credit available is used, the amount of credit available decreases accordingly. However, once the outstanding debt to the financial institution is satisfied, the amount of credit  
25 available is renewed to the original credit amount. This provides a revolving credit account for use in such credit transactions.

In a further embodiment the verification documentation includes an specially claused Waybill, which is used instead of a conventional waybill, but provides the functionality of a bill of lading.

In a further embodiment the seller agrees to a non-disposal provision whereby the seller retains the right to stop the goods in transit and the right to vary the identity of the buyer until notified by the Documentary Clearance Centre that the documents presented by the seller, including the specially claused Waybill, are in compliance  
5 with the electronic documentary credit. The seller then loses the right to stoppage in transit and the right to vary the identity of the buyer.

In a further embodiment the seller grants the Documentary Clearance Centre a lien on the goods so that the goods are not released to the buyer until payment is received.

10 In a further embodiment of the present invention, the specially claused Waybill is made subject to the CMI Uniform Rules for Sea Waybills.

In a further embodiment of the present invention, the seller's funds are only transferred by the Documentary Clearance Centre to the seller's bank if the Documentary Clearance Centre has received notification that the buyer has failed to  
15 make direct payment to the seller.

In a further embodiment of the present invention, the seller ships the goods to the buyer and forwards documentation to the Documentary Clearance Centre for verification of compliance with the terms of the documentation. The Documentary Clearance Centre notifies the buyer of the presence of the compliance documents.  
20 Once the buyer acknowledges the presence of the documents and agrees to pay for the goods, the Documentary Clearance Centre verifies compliance with the terms and conditions set out in the documentation. Once the terms and conditions are verified, the Documentary Clearance Centre charges the buyer's credit account for the seller's payment, transaction fees and assignment of proceeds, if any. The Documentary  
25 Clearance Centre effects the transfer of payment from buyer to seller. The Documentary Clearance Centre forwards the compliance documents to the buyer and authorizes the release of goods to the buyer.

In all preferred embodiments the system of the invention includes a computer program for implementing computer manageable portions of the system, including

processing an application for credit, processing an application for issuance of a documentary credit, forwarding to the seller documentation for verifying compliance with the terms, and verifying compliance with the terms and conditions of the issued documentary credit.

- 5           The present invention thus provides a secure payment and trade management method for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, comprising the steps of: creating a credit facility granted by a credit institution in favour of the buyer, processing an application for credit by the buyer or the credit institution, verifying the credit facility and
- 10   reserving funds therein, communicating a commitment to make payment to the seller, processing documentation for verifying compliance with the given terms, and upon verifying compliance, making payment to the seller.

- The present invention further provides a secure payment and trade management system for a transaction between a buyer and a seller containing terms to be complied
- 15   with as a condition of payment to the seller, comprising a computer for processing an application for credit by the buyer or a credit institution granting a credit facility in favour of the buyer, and a communications network for verifying the credit facility and reserving funds therein, communicating a commitment to make payment to the seller, and receiving documentation from the seller for verifying compliance with the
- 20   terms, whereby a documentary processing centre processes the documentation for verifying compliance with the terms and upon verifying compliance makes payment to the seller.

- The present invention further provides a computer program product for use with a computer, said computer program product comprising a computer usable
- 25   medium having computer readable code means embodied in said medium for providing a secure payment and trade management method for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, said computer program product having computer readable program code means for causing a computer to process an application for credit by the buyer or a
- 30   credit institution which has created a credit facility in favour of the buyer, computer

readable program code means for causing a computer to forward to the seller documentation for verifying compliance with the terms, and computer readable program code means for causing a computer to process the documentation for verifying compliance with the terms and provide verification of compliance.

5 Brief Description of the Drawings

In drawings which illustrate by way of example only preferred embodiments of the invention,

Figure 1 is a block diagram of a method of securing payment and managing trade transactions showing a documentary clearance centre and the various parties  
10 involved in a trade transaction according to the present invention;

Figure 2 is a schematic diagram of a further embodiment of the present invention comprising a buyer's bank as the credit institution; and

Figure 3 is a schematic diagram of a still further embodiment of the present invention.

15 Detailed Description of the Invention

Figures 1 and 2 illustrate the direction of transactions in preferred embodiments of the method of securing payment and managing trade transactions. It will be appreciated that the method of the invention applies to any transaction for which documentary credit is currently available, including the sale of goods, services  
20 or other performances. The description of the preferred embodiments which follows refers to a sale of goods by way of example, however the invention is not intended to be so limited.

According to these embodiments, a buyer and seller who have agreed to a commercial contract can communicate over a secure communications network with a  
25 Documentary Clearance Centre DCC. The Documentary Clearance Centre DCC is able to communicate also with other third parties such as financial institutions including credit card issuing financial institutions and banks, carriers and other trade

service providers TSP such as but not limited to insurance companies, chambers of commerce, surveyors and freight forwarders.

According to this embodiment, the buyer B obtains a credit facility by arranging or applying for a credit account with a financial institution such as a credit card company CCC, as shown in Figure 1, or the buyer's bank BFI, as shown in Figure 2. The credit facility, defined herein as an irrevocable obligation to pay funds within a defined period of time and/or upon compliance with specified conditions, is an arrangement entered into between the buyer B and the financial institution CCC or BFI preferably prior to contacting the Documentary Clearance Centre DCC. As part of the credit facility the buyer B preferably obtains a credit account in the form of a L/C Card (Letter of Credit Card), which provides the buyer B with a specified amount of credit to enter into trade transactions.

Unlike a conventional letter of credit or other documentary credit, the L/C Card credit account is not transaction specific and can be utilized for any of a number of trade transactions. As the buyer B uses some or all of the credit available on the L/C card, the amount of credit available to the buyer B decreases accordingly. However, once the buyer B satisfies its outstanding debt to the financial institution CCC or BFI, the amount of credit available to the buyer B is renewed to the original credit amount. Thus, the L/C Card essentially provides a revolving credit account to the buyer B for use in such credit transactions.

The L/C card is advantageous over the conventional documentary credit process, as a buyer is often required to deposit funds or other tangible collateral with the issuing bank in order to have a documentary credit issued on its behalf. As the conventional documentary credit is in essence an irrevocable undertaking linked to a specific commercial transaction, it must necessarily be transaction specific and thus must be applied for separately for each new transaction entered into between a buyer and a seller. On the other hand, a buyer B with a L/C Card is not limited to a specific transaction and can enter into any number of trade transactions depending, on the amount of credit available to the buyer B and the buyer's ability to repay and replenish

the credit account. The buyer B and the financial institution CCC or BFI enter into a separate contractual agreement governing this credit account.

Once a buyer B has entered into a trade transaction with a seller S, the buyer communicates with the Documentary Clearance Centre DCC over a communications network, as in Figure 1, or the buyer's bank BFI communicates with the Documentary Clearance Centre DCC, as in Figure 2, requesting the issuance of an electronic documentary credit eDC. The communications network may be a closed network using point-to-point communication protocols, or as in the preferred embodiment may be an open network such as the Internet using currently available security techniques, as discussed below.

The electronic documentary credit eDC is a message containing the terms and conditions specified by the buyer B which must be met prior to payment to the seller S. As with conventional documentary credit, these conditions may include the presentation of certain documents such as a commercial invoice, a packing list, a certificate of origin, shipping documents, a surveyor's quality or quantity certificate, etc.

At the same time that the buyer B provides the information for the issuance of an electronic documentary credit eDC, the buyer B also provides the necessary credit information so that the Documentary Clearance Centre DCC can verify that the buyer B has the necessary amount of credit available for the transaction. In the embodiment of Figure 1, the Documentary Clearance Centre DCC communicates with the credit card company CCC or directly with the buyer's financial institution to reserve an amount of credit on account of the transaction between the buyer B and seller S. It may additionally reserve an amount of credit on account of anticipated service charges for the transaction or specific assignments of proceeds as directed by the buyer B. The Documentary Clearance Centre DCC requests an authorization and receives a confirmation from the credit card company CCC for this transaction.

The amount of credit reserved is not immediately charged to the buyer, but is reserved (and thus unavailable to the buyer B for other transactions) until the terms of the electronic documentary credit eDC have been complied with. Once the terms of



the electronic documentary credit eDC have been met, the buyer's credit account is charged and the seller S receives payment. The Documentary Clearance Centre DCC guarantees reimbursement of its payment to the seller S by reserving this amount of credit from the buyer's credit account. This authorization (or rejection) of the buyer's  
5 available credit can be effected electronically over the communications network in a matter of seconds.

In the preferred embodiments, some or all of the parties involved in the transaction communicate through network interfaces NI connected to the communications network. Banks and credit card companies having existing  
10 communications facilities may continue to use these for their intercommunication in the method of the invention.

Communication between the parties over the communications network can be effected using electronically encrypted messages using encryption methods such as those utilizing algorithms or a series of algorithms which provide a cryptographic key  
15 pair consisting of a private key and a corresponding public key which can be used to transform, validate, authenticate, encrypt or decrypt data. These encryption methods are well known and include, for example, server gated cryptography, Microsoft (Trademark) Cryptography API or the INDENTRUS (Trademark) System. Moreover, digital authentication technology, for example, in the form of digital certificates from  
20 VeriSign (Trademark) is known as a means to definitively identify internet participants. Digital certificates or Digital ID's are used in many electronic commerce applications to verify the identity of parties communicating with each other. The Digital ID identification process during these activities is transparent to the user. These methods are described herein as examples only, and the invention is not  
25 intended to be limited to any particular electronic communications or security method or protocol.

In the preferred embodiment the parties in the system are able to obtain information about each other also by an electronic bank reference form eBRF. The parties provide information such as the name and address of the company, the name of  
30 its bank and the contact number of a bank manager who knows the party's company

and any additional reference information that the party wishes to disclose on the system. A party who wishes to verify the information contained in the electronic bank reference form eBRF can simply contact the banking institution.

Once the buyer's credit availability has been approved and the buyer's  
5 information is checked for validity, such as for conflicting dates or for terms within parameters for a given buyer B, the Documentary Clearance Centre DCC issues an electronic documentary credit eDC. The Documentary Clearance Centre DCC then advises the seller S of the electronic documentary credit eDC and its terms and conditions. The Documentary Clearance Centre DCC thus completely replaces the  
10 function of the advising bank in the conventional documentary credit process.

If the seller S is registered with the Documentary Clearance Centre DCC then the Documentary Clearance Centre DCC can advise the seller S of the issued electronic documentary credit eDC. This message is sent over the communications network and the message can be authenticated by the seller S. If the seller S is not  
15 registered with the Documentary Clearance Centre DCC, or does not have a network interface NI available, then the seller S can be advised by a conventional method such as a courier or other means that could clearly identify the origin and identity of the sender.

Once the seller S receives the electronic documentary credit eDC, the seller  
20 has the option of accepting the terms and conditions of the electronic documentary credit eDC or requesting amendments from the buyer B. As the buyer B, seller S and Documentary Clearance Centre DCC are all dealing with the same electronic document and are communicating over the same secure network, the procedure of amendments becomes much quicker, simpler and more accurate than with the  
25 conventional documentary credit process.

Under the present invention, amendments to the eDC are made via the communications network. For example, the seller S may contact the buyer B by sending a secure message asking for an amendment to the electronic documentary credit eDC. If the buyer B agrees with the request, he can immediately forward this  
30 request to the Documentary Clearance Centre DCC. Alternatively, the buyer B can

modify the request for amendment and send it to the Documentary Clearance Centre DCC for forwarding to the seller, or the buyer B may choose to negotiate directly with the seller S and send the final terms and conditions to the Documentary Clearance Centre DCC. Having received authenticated instructions from the buyer B to amend  
5 the credit, the Documentary Clearance Centre DCC can formally advise the seller S of the amended electronic documentary credit eDC with a secure message that can be authenticated in the same way as the original message. The parties are thus able to communicate with each other in a secure environment and can check with the Documentary Clearance Centre DCC as to the status of the amendments.

10           Once the seller receives the electronic documentary credit eDC from the Documentary Clearance Centre DCC, the seller sends electronic requests to various trade service providers TSP. The seller S asks these trade service providers TSP to provide it with documents that the seller S must present to the Documentary Clearance Centre DCC in order to receive payment. Examples of these documents prepared by a  
15 trade service provider TSP include certificates of origin prepared by a chamber of commerce, insurance policy certificates prepared by an insurance broker, surveyor's report as to quality or quantity prepared by a surveyor, or a health certificate prepared by a health authority. In addition, the seller S must itself prepare certain documents such as the commercial invoice and the packing list. Once all of the documents  
20 specified in the electronic documentary credit eDC are assembled, the seller S can present them to the Documentary Clearance Centre DCC for verification of compliance with the terms of the credit.

          Under the conventional method of documentary presentation, a seller creates certain documents using its own typewriter or word processor and collects other  
25 documents from the transport company, surveyor, health authority, chamber of commerce and/or other sources as required by the documentary credit. Thus, in the conventional system the seller must collect all the required documents, forward them to the verifying bank which checks each document to ensure conformity with the terms and conditions of the credit, and then presents these compliance documents to  
30 the nominating bank or directly to the issuing bank (depending on the terms of the documentary credit) before the expiry date set out in the documentary credit (usually

14 -21 days after the latest shipment date). Documents presented under the documentary credit which contain even a minor discrepancy put the seller at risk of not getting paid or getting paid at a discounted amount from the original contract or documentary credit. In practise, most discrepancies are minor and can be rectified by the seller provided that there is sufficient time before the expiration of the documentary credit. Current statistics (1999) suggest that under the traditional documentary credit system as much as 80% of all documents presented under the documentary credit contain discrepancies. The process of instructing trade service providers TSPs to prepare documents in accordance with specific terms and conditions of the documentary credit is cumbersome, time consuming and requires expertise by the seller and the respective trade service providers TSPs. Under the conventional system, the time and expense required to ensure that documents comply with the documentary credit is enormous.

Moreover, with the conventional system there is usually more than one entity that checks that the presented documents comply with the documentary credit. This also creates an increased risk of non-payment or discounted payment due to discrepancies. There is also potential for inconsistencies in the conventional method, due to differing verification practises and procedures at different institutions. For example, the nominated bank may not consider an error to be a material discrepancy while the issuing bank may consider the same error to be a discrepancy which justifies non-payment on the credit, thereby creating a risk of non-payment to the nominated bank (which may have already paid the seller). Under the present invention, there is only one authority which checks for compliance, the Documentary Clearance Centre DCC, which considerably reduces the risk of non-payment both to the seller S and to an intermediary institution.

Under the present invention, document preparation and presentation is simplified and improved. Since almost all documents are now produced using word processors, conversion of those documents into a uniform file standard (ASCII or any other widely accepted format) can be easily done. Standardized templates are available for creating documents such as commercial invoices, packing lists, certificates of origin and other documents usually required for presentation. Whereas

under the conventional documentary credit process, the information required for each transaction is inputted by the different parties into their own data systems, which increases the chances of error and discrepancies, using the present invention reduces these risks because portions of the documentation relating to descriptions of the buyer  
5 B, seller S, goods and so on that are common to the documentation can be electronically excised and transposed (“cut” and “pasted”) from one document to another directly using the Documentary Clearance Centre DCC electronic communication, considerably reducing opportunities for errors and discrepancies.

The present invention in the preferred embodiment utilizes a unique  
10 transaction-specific identifier to create an “electronic envelope” comprising an electronic documentary credit eDC which is forwarded to the seller S. The seller thereafter communicates with the trade service providers TSP using selected information excised from the electronic documentary credit eDC to instruct the TSP’s as to the content of the documents needed to comply with the electronic documentary  
15 credit eDC within specified time limits. The seller S thereafter collects the compliance documents from the various trade service providers TSP and forwards the documents, preferably electronically, on to the Documentary Clearance Centre DCC to meet the terms of the electronic documentary credit eDC. The compliance documents are received by the Documentary Clearance Centre DCC and through the software  
20 processing, comparison and verification is achieved.

The present invention preferably allows not only the buyer and seller to communicate over the communications network, but allows other trade service providers TSP and financial institutions to also intercommunicate over the same network with the same degree of security. These other parties may include but are not  
25 limited to the transport companies, surveyors, chambers of commerce, insurance companies, customs brokers, banks and credit card companies.

The system of the invention also offers greater flexibility than other prior art systems in that if the seller S does not have access to the secure network, then it can be advised of the credit by conventional communications techniques such as courier  
30 or facsimile transmission, as shown in Figure 3. If the Documentary Clearance Centre

DCC advises the credit by way of courier, it can forward to the seller S a documentary credit in paper form clearly identifying the origin of the document from the Documentary Clearance Centre DCC and the authenticity of the document and with the necessary information for verification such as the name of the Documentary Clearance Centre DCC, the reference number of the document and the telephone, facsimile and e-mail address of the Documentary Clearance Centre DCC. With a facsimile document, the seller S could call the Documentary Clearance Centre DCC by telephone to authenticate the facsimile advise quickly. In the same way, the seller S can contact various trade service providers TSP for required documents to be presented under the documentary credit eDC and have these trade service providers TSP forward all documentation by courier. The documentation can then be forwarded on to the Documentary Clearance Centre DCC for verification of compliance. In a further embodiment of the present invention, paper documents may be presented to custodial offices located throughout the world instead of to a Documentary Clearance Centre DCC.

Once the documents are found to be in compliance with the terms of the electronic documentary credit eDC, the Documentary Clearance Centre DCC charges the buyer's L/C Card. The funds are then transferred from the buyer's credit card company CCC or other financial institution BFI to the Documentary Clearance Centre DCC's bank and the Documentary Clearance Centre DCC then transfers the amount on account of the transaction between the buyer B and seller S to the seller's bank SFI as specified in the electronic documentary credit eDC. A confirmation message is also sent directly to the seller with details of this transfer.

In the alternative embodiment as shown in Figure 2 the request to reserve funds is not directed to a credit card company CCC but rather directly to a financial institution BFI such as a bank with whom the buyer B has a credit account, such as a revolving line of credit. If the buyer B has credit available for the transaction, then the Documentary Clearance Centre DCC requests that the bank BFI reserve these funds for the transaction. Upon compliance with the electronic documentary credit eDC, the reserved funds are transferred from the bank BFI to the Documentary Clearance Centre DCC and then to the seller S.

Once the Documentary Clearance Centre DCC receives payment, it may then notify the carrier TC of the goods that the terms of the electronic documentary credit eDC have been complied with, in order to allow the buyer B to receive its goods. The Documentary Clearance Centre DCC then forwards the compliance documents to the  
5 buyer B so that the goods can be cleared through customs (if necessary) and for the buyer's internal accounting purposes. Alternatively, the compliance documents can be forwarded by courier to the buyer B, or to a custodial office of the Documentary Clearance Centre DCC for the buyer B to pick up. Should original documents be required, this can also be specified as a term of the electronic documentary credit  
10 eDC.

The compliance documents may include conventional transport documentation, for example an air waybill, rail waybill, etc. In a further embodiment of the invention, a Waybill with special clauses is used to provide the functional replacement of a paper bill of lading. One of the purposes for the invention is to  
15 replace the need for original documents in paper form, primarily the bill of lading (negotiable document of title) through the use of this specially clausured Waybill. The specially clausured Waybill or Multimodal Transport Document is prepared by the carrier TC and forwarded to the seller S as part of the document compliance process, as shown in Figures 1 and 2. The seller S forwards the specially clausured Waybill onto  
20 the Documentary Clearance Centre DCC over the communications network to satisfy the terms of the electronic documentary credit eDC. The specially clausured Waybill is proof of the contract of carriage and a receipt of goods.

However, the specially clausured Waybill also provides a method of ensuring that the rights of the parties involved are protected, in that the seller S requires a  
25 guarantee that it will get paid prior to releasing control of the goods and the buyer B wishes to gain control of the goods and verify compliance with the contract prior to paying the seller S. According to this method, the seller S retains the right to stop the goods in transit and the right to vary the identity of the buyer. However, once the seller S is notified by the Documentary Clearance Centre DCC that the documents  
30 presented by the seller S, including the specially clausured Waybill, are in compliance with the electronic documentary credit eDC, then the seller S loses the right to

stoppage in transit and the right to vary the identity of the buyer. The seller S agrees that upon acceptance of the specially claused Waybill by the Documentary Clearance Centre DCC, it irrevocably renounces any right to vary the identity of the buyer of the goods. The carrier TC is informed of this irrevocable renunciation and may then  
5 release the goods to the buyer B (this may be referred to as a non-disposal provision).

In an alternative embodiment of the present invention, similar steps as stated above are taken for an e-standby or an e-guarantee, including reserving an amount of credit at the outset of the transaction from the buyer's L/C card thus guaranteeing payment. However, with an e-standby or an e-guarantee, the buyer B is responsible  
10 for directly paying funds to the seller S. It is only upon the default of the buyer B to pay funds directly to the seller S that the Documentary Clearance Centre is notified of this default and the Documentary Clearance Centre DCC then pays the reserved funds on account of the e-standby or e-guarantee to the seller S.

In an alternative embodiment using an e-collection, similar steps as outlined  
15 above are also taken. However, with e-collection, the seller initiates the process by shipping goods to the buyer. The seller electronically forwards a set of compliance documents to the DCC. The DCC advises the buyer of the presence of the compliance documents. Once the buyer acknowledges the presence of the compliance documents and agrees to pay, the compliance documents are forwarded to the buyer. The DCC  
20 then transfers payment from the buyer's account to the seller's account, forwards the compliance documents to the buyer and may then notify the carrier TC of the goods to allow the buyer to obtain possession of the goods.

In a further embodiment of the present invention, the seller S grants the Documentary Clearance Centre DCC a lien over the goods to protect the seller S, so  
25 that the goods are not released to the buyer B until payment is received. However, once the seller S is notified by the Documentary Clearance Centre DCC that the documents presented by the seller S, including the specially claused Waybill are in compliance with the electronic documentary credit eDC, then the Documentary Clearance Centre DCC notifies the seller S and the carrier TC of the removal of the



lien. Once the lien is removed, the carrier TC may then release the goods to the buyer  
B.

In a further embodiment of the present invention, the specially clausued Waybill  
is made subject to the CMI Uniform Rules for Sea Waybills, which is incorporated  
5 herein by reference.

Although various preferred embodiments of the present invention have been  
described herein in detail, it will be appreciated by those skilled in the art that  
variations and modifications may be made thereto without departing from the spirit of  
the invention. The invention is intended to include all such variations and  
10 modifications as fall within the scope of the invention as set out in the appended  
claims.

## WE CLAIM:

1. A secure payment and trade management method for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, comprising the steps of:
  - creating a credit facility granted by a credit institution in favour of the buyer,
  - processing an application for credit by the buyer or the credit institution to verify the credit facility,
  - reserving funds in the credit facility,
  - communicating a commitment to make payment to the seller,
  - processing documentation for verifying compliance with the terms, and
  - upon verifying compliance, making payment to the seller.
2. The method of claim 1 wherein the documentation comprises electronic documentation.
3. The method of claim 2 including the step of authorizing the release of goods to the buyer.
4. The method of claim 2 wherein the credit facility is not transaction-specific.
5. The method of claim 4 wherein the credit facility is a revolving form of credit.
6. The method of claim 2 comprising the additional step of providing a specially claused Waybill.
7. The method of claim 6 additionally comprising the step of incorporating a non-disposal provision in the specially claused Waybill whereby the seller retains the right to stop the goods in transit and vary the identity of the buyer until notified of compliance wherein the seller loses the right to stop the goods in transit.
8. The method of claim 2 comprising the additional step of encrypting communications using public and private key cryptography.

9. The method of claim 2 in which the step of processing an application for credit by the buyer or the credit institution comprises providing an electronic application form to the buyer or credit institution.
10. The method of claim 2 comprising the step of completing an electronic bank reference form.
11. The method of claim 2 comprising the step of providing documentation for verifying compliance.
12. The method of claim 2 comprising the step of the seller communicating with trade service providers over the communications network to obtain documentation for verifying compliance.
13. The method of claim 2 comprising the additional step of receiving notification that the buyer has failed to make payment to the seller as a condition to making payment to the seller.
14. A secure payment and trade management method for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, comprising the steps of:
  - processing documentation from the seller for verifying compliance with the terms,
  - communicating the receipt of the documentation to the buyer who has been shipped goods by the seller,
  - verifying compliance with the terms, including obtaining an agreement to pay for the goods by the buyer through creating a credit facility granted by a credit institution in favour of the buyer,
  - verifying the credit facility, and
  - authorizing the release of goods to the buyer and making payment to the seller.
15. A secure payment and trade management system for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, comprising a computer for processing an application for credit by the buyer

or a credit institution granting a credit facility in favour of the buyer, and a communications network for:

verifying the credit facility and reserving funds therein,  
communicating a commitment to make payment to the seller, and  
receiving documentation from the seller for verifying compliance with the terms,

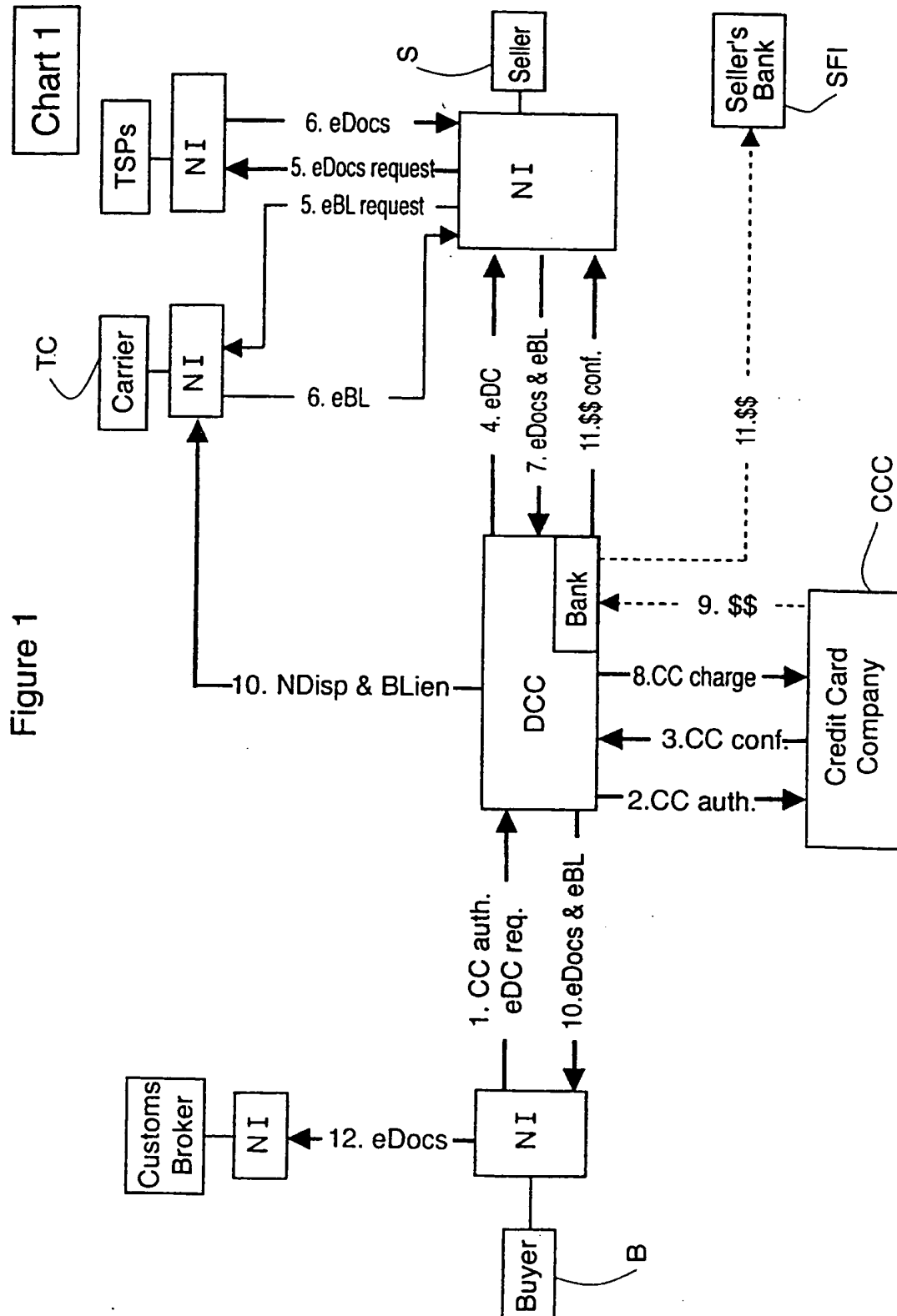
whereby a documentary processing centre processes the documentation for verifying compliance with the terms and upon verifying compliance makes payment to the seller.

16. The system of claim 15 wherein the documentation comprises electronic documentation.
17. The system of claim 16 wherein the documentary processing centre authorizes the release of goods to the buyer.
18. The system of claim 16 wherein the credit facility is not transaction-specific.
19. The system of claim 18 wherein the credit facility is a revolving form of credit.
20. The system of claim 16 wherein a specially claused Waybill is communicated over the communications network.
21. The system of claim 20 additionally comprising the step of incorporating a non-disposal provision in the specially claused Waybill whereby the seller retains the right to stop the goods in transit and vary the identity of the buyer until notified of compliance wherein the seller loses the right to stop the goods in transit.
22. The system of claim 16 comprising the additional step of encrypting communications over the communications network using public and private key cryptography.
23. The system of claim 16 comprising an electronic application form for completion by the buyer or credit institution.

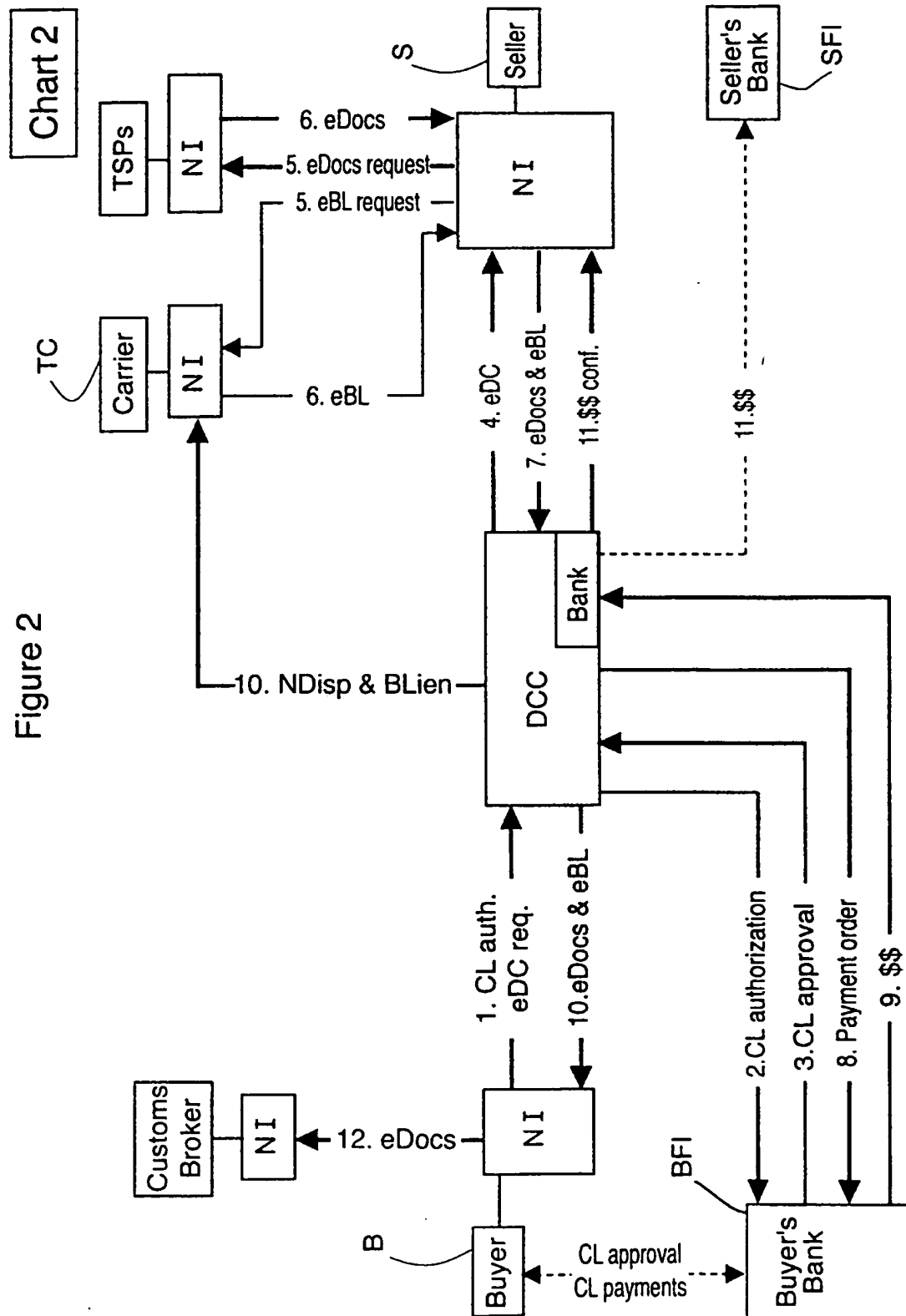
24. The system of claim 16 comprising an electronic bank reference form for completion by the seller or the buyer.
25. The system of claim 16 comprising the step of providing documentation for verifying compliance.
26. The system of claim 16 wherein trade service providers communicate over an interface to the communications network to provide documentation for verifying compliance.
27. The system of claim 15 comprising the additional step of receiving notification that the buyer has failed to make payment to the seller as a condition to making payment to the seller.
28. A secure payment and trade management system for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, comprising a computer for processing an application for credit by the buyer or a credit institution granting a credit facility in favour of the buyer, and a communications network for:
- receiving documentation from the seller for verifying compliance with the terms,
  - communicating the receipt of the documentation from the seller to the buyer who has been shipped goods by the seller, and
  - verifying the credit facility,
- whereby a documentary processing center processes the documentation for verifying compliance with the terms and upon verifying compliance and obtaining an agreement to pay for the goods from the buyer, authorizes the release of goods to the buyer and makes payment to the seller.
29. A computer program product for use with a computer, said computer program product comprising a computer usable medium having computer readable code means embodied in said medium for providing a secure payment and trade management method for a transaction between a buyer and a seller containing terms to be complied with as a condition of payment to the seller, said computer program product having

computer readable program code means for causing a computer to process an application for credit by the buyer or a credit institution which has created a credit facility in favour of the buyer, computer readable program code means for causing a computer to forward to the seller documentation for verifying compliance with the terms, and computer readable program code means for causing a computer to process the documentation for verifying compliance with the terms and provide verification of compliance.

1/3



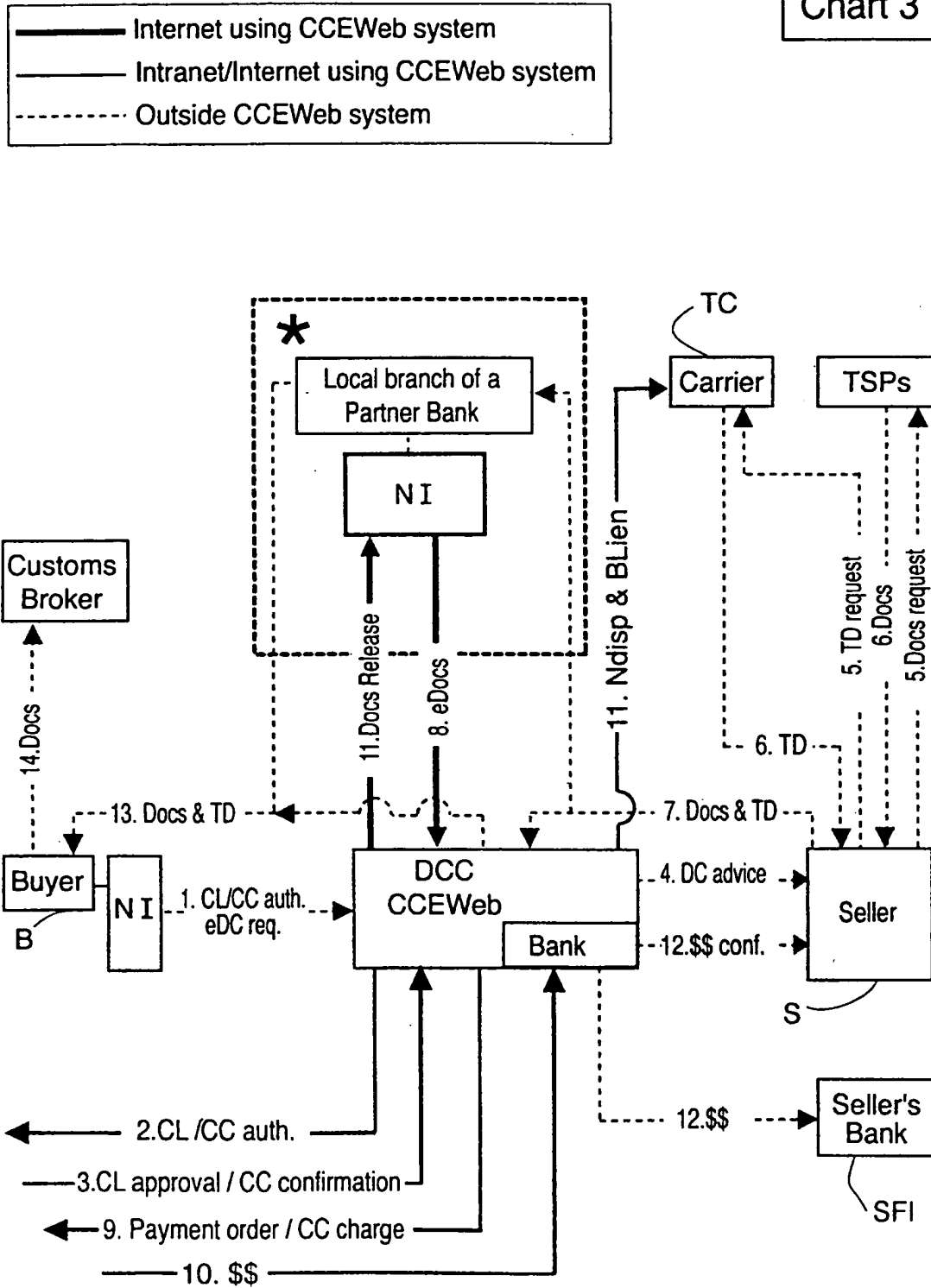
## Figure 2





3/3  
Figure 3

Chart 3



# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 00/01357

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07F19/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 426 281 A (ABECASSIS MAX) 20 June 1995 (1995-06-20) the whole document ---	1-28
X	EP 0 858 057 A (FUJITSU LTD ; SAKURA BANK LTD (JP)) 12 August 1998 (1998-08-12) abstract; claims; figures column 2, line 35 -column 13, line 49 ---	1-28
X	WO 99 28873 A (HUBER CHAIM ; ACCORD INVESTMENTS FINANCE AND (IL)) 10 June 1999 (1999-06-10) the whole document ---	1, 2, 9-18, 23-28
A	US 5 717 989 A (LYNCH CHRISTOPHER JAMES ET AL) 10 February 1998 (1998-02-10) the whole document ---	1-28
-/-		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

\*G\* document member of the same patent family

Date of the actual completion of the international search

24 April 2001

Date of mailing of the international search report

03/05/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Guivol, O

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 00/01357

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 270 042 A (CASE JOHN M) 26 May 1981 (1981-05-26) abstract; claims; figures ---	1
A	US 5 910 896 A (HAHN-CARLSON DEAN W) 8 June 1999 (1999-06-08) -----	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 00/01357

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5426281 A	20-06-1995	NONE	
EP 0858057 A	12-08-1998	JP 11003387 A US 6085168 A	06-01-1999 04-07-2000
WO 9928873 A	10-06-1999	IL 122461 A AU 9558598 A DE 1036380 T EP 1036380 A	06-12-1998 16-06-1999 15-03-2001 20-09-2000
US 5717989 A	10-02-1998	AU 3951295 A CA 2202157 A EP 0789884 A GB 2308210 A US 6151588 A WO 9612242 A	06-05-1996 25-04-1996 20-08-1997 18-06-1997 21-11-2000 25-04-1996
US 4270042 A	26-05-1981	NONE	
US 5910896 A	08-06-1999	AU 729618 B AU 5238098 A EP 0938715 A WO 9821678 A	08-02-2001 03-06-1998 01-09-1999 22-05-1998